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SEASONAL PROGRESS REPORT NO. 1
for the period
December, January and February 1977-1978

to

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STATE OF

COLORADO

ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 Lincoln St., Suite 900
Denver, CO 80203

Contract No. 68-01-3982

August 15, 1978

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REGION VIII
1860 Lincoln St., Suite 900
Denver, CO 80203

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by

Aeromet, Inc.
P. O. Box 45447
Tulsa, OK 74145

1928-1933
1933-1934
1934-1935
1935-1936
1936-1937

1.0 INTRODUCTION

Low level temperature and wind data were collected for the winter season of December, January and February 1977-1978 at the Colorado C-b Tract 25 miles west of Rio Blanco, Colorado; Hanksville, Utah; and Rock Springs, Wyoming. The data were collected using 30 gm helium filled pilot balloons with a temperature sonde attached and a TSR-2 receiver/recorder. The pibals were tracked by single theodolites at Hanksville and Rock Springs and by a double theodolite at the Colorado C-b Tract. Aeromet was not involved in the reduction of the double theodolite data other than reducing the data as two independent theodolites. The observations were scheduled 1/2 hour after sunrise and at 1400L, twice a day, every other day. The C-b Tract is not manned weekends, therefore, scheduled launches that fell on Saturday were released the preceeding Friday; Sunday launches were released the following Monday.

The pilot balloon had an initial ascent rate of 500 ft/min and was tracked by a theodolite for 12 minutes with the azimuth and elevation angles recorded every 30 seconds on cassette tape recorders. The tapes were transcribed to pilot balloon forms after completion of the launch.

The temperature sonde operated at 403 MHz and the signal was received by a ground plane antenna at least 16 ft AGL which was attached to the Aeromet, Inc. TSR-2 receiver/recorder. The TSR-2 receiver has a built-in Rustrak strip chart recorder that recorded temperature within the range from -50°C to +50°C. A baseline temperature calibration was performed with each T-Sonde by the adjustment of the recorded temperature to match the thermometer measured temperature next to the transmitting sonde. Once the calibration check was finished, the balloon was released with the sonde attached and the temperature was recorded for at least 20 minutes. At the completion of each observation the data were mailed to Aeromet, Inc.

2.0 DATA SUMMARY

2.1 Mixing Layer Height

The average mixing layer height was computed for the morning and afternoon based on the morning and 1400L temperature soundings. The balloon release 1/2 hour after sunrise is near enough to the minimum temperature to assume the correctness of the calculated mixing layer heights. The afternoon balloon release is generally not at the time of maximum heating and the user of the mixing layer height data must be aware that minor changes in the calculated values can be expected. Without equipping the field sites with minimum/maximum thermometers, the extrapolation of the afternoon data cannot be justified in establishing a data base for statistical analysis. The approximation of the afternoon maximum temperature would be a "calculated guess" for there are: 1) local effects which are to be determined and would be filtered out with extrapolation, 2) mountain effects which alter the lower 1500m (e.g., downslope effects), and 3) meteorological effects which can alter the expected change in the sounding (e.g., advection, moisture, etc.).

It is felt that to better define the mixing layer height a variety of "heat island" effects should be viewed. The rigorous method would be to define 15 "heat island" effects ranging from 0 to 14°C and let the user decide which would best serve his needs. However, for this analysis 0°, +5° and +10° "heat island" effects were calculated.

The average mixing layer height values calculated with the 0°, +5° and +10° "heat island" effects for each of the three field sites for the winter season of December, January and February 1977-1978 are summarized in the table labelled Mixing Layer Height Summary. The percent of occurrence of the average height within 250m increments above ground level is given. The total number of soundings included in the sample populations are also listed in the table.

2.2 Stability and Inversion Classification

The temperature data are processed to produce for each site a seasonal summary of inversion layers and lapse rates within the inversions and from the inversion base to the surface by means of the Holzworth classification scheme for inversions (Holzworth, G. C., 1974: "Climatological Data on Atmospheric Stability in the United States" paper presented at the American Meteorological Society Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974, Santa Barbara, California).

The temperature and wind data are processed together to produce for each site a seasonal average bivariate frequency distribution of wind direction versus wind speed represented in the 500m layer adjacent to the ground. The distribution is presented by the six Pasquill stability classes (A-F) and a summary independent of stability. If the $\Delta T/100m$ criterion is met but the wind speed criterion is not met, then the wind data are checked against the

STABILITY CLASS	ΔT ($^{\circ}\text{C}/100\text{m}$)	WIND SPEED (m s^{-1})
A	<-1.9	≤ 2
B	-1.9 - -1.7	≤ 5
C	-1.7 - -1.5	≤ 6
D	-1.5 - -0.5	ALL SPEEDS
E	-0.5 - 1.5	≤ 5
F	>1.5	≤ 3

criterion for the next stability class, always cascading to the D stability class. Once the wind speed criterion is met, the data are classified under the new stability class even though now the lapse rate exceeds the class criterion. For example, if the $\Delta T/100m$ value is 1.7 and the wind speed is 7 m s^{-1} , the lapse rate criterion is met for the stability class F, however, the wind speed criterion is exceeded. The wind speed is greater than the 5 m s^{-1} maximum limit for class E but falls within the criterion of class D, which includes all wind speeds. As a result, the observational data with a ΔT value

of $1.7^{\circ}\text{C}/100\text{m}$ and a wind speed value of 7 m s^{-1} are classified under stability class D, not class F.

The temperature and wind data were edited to remove data felt to cause anomalous results in the stability and inversion classification schemes. Only the soundings listed prior to the table classifying the inversions in the Monthly Progress Reports were used in the calculations. The temperature and wind data were not edited after completion of the monthly reports.

The data are punched on computer cards in a format compatible with the STAR PROGRAM of the National Climatic Center, NOAA, U.S. Department of Commerce.

2.3 Punched Output

The punched output from the bivariate frequency distribution calculations include a header card as illustrated below, and the punched distribution data

for each wind direction under each stability class in agreement with the "STAR" output. The stability classes are number coded as follows:



STABILITY CLASS	NUMBER CODE
A	1
B	2
C	3
D	4
E	5
F	6
Independent of Stability	7

The station I.D. numbers are as follows:

STATION	I.D. NUMBER
Colorado C-b Tract	1
Hanksville, Utah	2
Rock Springs, Wyoming	4

The month and season number codes are as follows:

MONTH	1-12
SEASON	13 = DJF
	14 = MAM
	15 = JJA
	16 = SON
ANNUAL	17

MIXING LAYER HEIGHT SUMMARY
 Colorado C-b Tract
 Season: December, January, February 1977-1978

MIXING LAYER HEIGHT (Height in meters)	PERCENT OF OCCURRENCE					
	MORNING			AFTERNOON		
	0°	+5°	+10°	0°	+5°	+10°
Surface	25.0	0.0	0.0	11.8	0.0	0.0
1 - 250m	22.2	2.9	0.0	26.5	3.0	0.0
251 - 500m	22.2	5.9	0.0	17.6	0.0	0.0
501 - 750m	16.7	5.9	2.9	17.6	3.0	0.0
751 - 1000m	2.8	14.7	0.0	2.9	6.1	0.0
1001 - 1250m	0.0	5.9	0.0	5.9	6.1	0.0
1251 - 1500m	0.0	0.0	2.9	5.9	6.1	0.0
1501 - 1750m	0.0	14.7	5.9	8.8	12.1	0.0
1751 - 2000m	5.6	11.8	8.8	2.9	9.1	3.2
> 2000m	2.8	17.6	26.5	0.0	39.4	48.4
None defined	2.8	20.6	52.9	0.0	15.2	48.4
TOTAL NUMBER	36	34	34	34	33	31

MIXING LAYER HEIGHT SUMMARY

Hanksville, Utah

Season: December, January, February 1977-1978

MIXING LAYER HEIGHT (Height in meters)	PERCENT OF OCCURRENCE					
	MORNING			AFTERNOON		
	0°	+5°	+10°	0°	+5°	+10°
Surface	33.3	0.0	0.0	12.2	0.0	0.0
1 - 250m	40.5	25.5	5.2	4.9	0.0	0.0
251 - 500m	16.7	23.1	10.3	31.7	2.5	0.0
501 - 750m	7.1	10.3	7.7	26.8	12.5	2.6
751 - 1000m	0.0	15.4	10.3	12.2	20.0	5.3
1001 - 1250m	0.0	0.0	12.8	0.0	12.5	7.9
1251 - 1500m	0.0	10.3	7.7	2.4	7.5	7.9
1501 - 1750m	0.0	2.6	5.1	0.0	7.5	7.9
1751 - 2000m	0.0	2.6	5.1	4.9	5.0	7.9
> 2000m	2.4	7.7	17.9	2.4	20.0	13.2
None defined	0.0	2.6	17.9	2.4	12.5	47.4
TOTAL NUMBER	42	39	39	41	40	38

MIXING LAYER HEIGHT SUMMARY

Rock Springs, Wyoming

Season: December, January, February 1977-1978

MIXING LAYER HEIGHT
(Height in meters)

PERCENT OF OCCURRENCE

MORNING

AFTERNOON

	0°	+5°	+10°	0°	+5°	+10°
--	----	-----	------	----	-----	------

Surface	48.7	0.0	0.0	46.4	0.0	0.0
1 - 250m	41.0	18.9	2.7	24.4	7.4	0.0
251 - 500m	7.7	21.6	13.5	19.5	2.4	0.0
501 - 750m	0.0	24.3	8.1	2.4	22.0	0.0
751 - 1000m	2.6	16.2	10.8	2.4	17.1	10.0
1001 - 1250m	0.0	2.7	8.1	0.0	14.6	5.0
1251 - 1500m	0.0	2.7	16.2	2.4	4.9	2.5
1501 - 1750m	0.0	10.8	13.5	2.4	4.9	10.0
1751 - 2000m	0.0	0.0	2.7	0.0	4.9	17.5
> 2000m	0.0	2.7	16.2	0.0	19.5	37.5
None defined	0.0	0.0	8.1	0.0	2.4	17.5
TOTAL NUMBER	39	37	37	41	41	40

MURTHY DEC JAN FEB MAR: 77-78 CUL CH TRACT ELEV 204A METERS

WILZAWIK TRAC CLASSIFICATION SCHEME FOR INVESTIGATIONS
SPLIFIED TO SPOT TOTAL NARROW INSTEAD OF PEPEENT

THICKNESS (NECESS)	SFC	INVESTIGATION BASE HEIGHT (ft)	101-251	251-501	501-751	751-1000	1000-1500	1500-2000	2000-2500	2500-3000	TOTAL
20	-	100	100	250	500	750	1000	1500	2000	2500	3000
21	-	104	3	4	4	5	6	3	0	0	30
22	-	264	4	2	1	1	1	1	0	0	13
23	-	504	1	1	1	1	1	1	0	0	6
24	-	591	1	1	1	1	1	1	0	0	6
25	-	751	0	0	0	0	0	0	0	0	1
26	-	1201	0	0	0	0	0	0	0	0	0
27	>	1500	0	0	0	0	0	0	0	0	0
28	INV TOTAL	0	0	0	0	0	0	0	0	0	0
29	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	50
30	0.7/1.2	5	1	0	0	0	0	0	0	0	1
31	FPOW INV	4	0	0	1	1	1	1	0	0	3
32	BASE 3	0	2	6	6	4	4	0	0	0	28
33	T0 2	0	1	2	1	0	0	0	0	0	4
34	SFC 1	3	2	0	0	0	0	0	0	0	5
35	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
36	INV TOT	18	12	18	12	12	12	12	12	12	DT/D7 (DEFG C) / 1000
37	DT/D2 FOR 5	1	0	1	0	0	0	0	0	0	49
38	SAME 4	3	8	6	5	3	4	4	4	4	50
39	LAYERS 3	7	9	10	13	15	14	3	0	0	20
40	AS INV 2	2	1	1	0	0	0	0	0	0	0
41	BASE 1	5	6	0	0	0	0	0	0	0	0
42	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
43	44	45	46	47	48	49	50	51	52	53	54
44	45	46	47	48	49	50	51	52	53	54	55
45	46	47	48	49	50	51	52	53	54	55	56
46	47	48	49	50	51	52	53	54	55	56	57
47	48	49	50	51	52	53	54	55	56	57	58
48	49	50	51	52	53	54	55	56	57	58	59
49	50	51	52	53	54	55	56	57	58	59	60

MILITIA: DEC JAN FEB MAR: 77-78 C.I. CR TRACT SPC TO 500 METERS

INITIALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			GREATER THAN 21 SPEED	AVERAGE SPEED	TOTAL
	7-10	11-15	17-21			
N	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0
WS	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0
NNN	0.0	0.0	0.0	0.0	0.0	0.0
<hr/>						
Avg SPEED	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE A STABILITY CLASS IS .0.0
 RELATIVE FREQUENCY OF CALM .0.0
 A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 74 SOUNDINGS DID NOT HAVE
 SOONER TEMP AND WIND DATA

[]

9
10
11 PERIOD: DEC JAN FEB MAR: 77-78 CLOTH TRACT SFC TO 500 METERS
12
13
14
15

16 NORMALIZED FREQUENCY DISTRIBUTION

17 DIRECTION	18			19			20			21			22			23			24			25			26			27			28			29			30			31			32			33			34			35			36			37			38			39			40			41			42			43			44			45			46			47			48			49			50			51			52			53			54			55			56			57			58			59			60																																																																																																																																																																																																																																																																																																																																								
4-5	4-6	4-7	7-10	11-16	17-21	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-59	60-61	62-63	64-65	66-67	68-69	70-71	72-73	74-75	76-77	78-79	79-80	81-82	83-84	85-86	87-88	89-90	91-92	93-94	95-96	97-98	99-100	101-102	103-104	105-106	107-108	109-110	111-112	113-114	115-116	117-118	119-120	121-122	123-124	125-126	127-128	129-130	131-132	133-134	135-136	137-138	139-140	141-142	143-144	145-146	147-148	149-150	151-152	153-154	155-156	157-158	159-160	161-162	163-164	165-166	167-168	169-170	171-172	173-174	175-176	177-178	179-180	181-182	183-184	185-186	187-188	189-190	191-192	193-194	195-196	197-198	199-200	201-202	203-204	205-206	207-208	209-210	211-212	213-214	215-216	217-218	219-220	221-222	223-224	225-226	227-228	229-229	230-231	232-233	234-235	236-237	238-239	239-240	241-242	243-244	245-246	247-248	249-250	251-252	253-254	255-256	257-258	259-260	261-262	263-264	265-266	267-268	269-269	270-271	271-272	272-273	273-274	274-275	275-276	276-277	277-278	278-279	279-280	280-281	281-282	282-283	283-284	284-285	285-286	286-287	287-288	288-289	289-290	290-291	291-292	292-293	293-294	294-295	295-296	296-297	297-298	298-299	299-300	300-301	301-302	302-303	303-304	304-305	305-306	306-307	307-308	308-309	309-310	310-311	311-312	312-313	313-314	314-315	315-316	316-317	317-318	318-319	319-320	320-321	321-322	322-323	323-324	324-325	325-326	326-327	327-328	328-329	329-330	330-331	331-332	332-333	333-334	334-335	335-336	336-337	337-338	338-339	339-340	340-341	341-342	342-343	343-344	344-345	345-346	346-347	347-348	348-349	349-350	350-351	351-352	352-353	353-354	354-355	355-356	356-357	357-358	358-359	359-360	360-361	361-362	362-363	363-364	364-365	365-366	366-367	367-368	368-369	369-370	370-371	371-372	372-373	373-374	374-375	375-376	376-377	377-378	378-379	379-380	380-381	381-382	382-383	383-384	384-385	385-386	386-387	387-388	388-389	389-390	390-391	391-392	392-393	393-394	394-395	395-396	396-397	397-398	398-399	399-400	400-401	401-402	402-403	403-404	404-405	405-406	406-407	407-408	408-409	409-410	410-411	411-412	412-413	413-414	414-415	415-416	416-417	417-418	418-419	419-420	420-421	421-422	422-423	423-424	424-425	425-426	426-427	427-428	428-429	429-430	430-431	431-432	432-433	433-434	434-435	435-436	436-437	437-438	438-439	439-440	440-441	441-442	442-443	443-444	444-445	445-446	446-447	447-448	448-449	449-450	450-451	451-452	452-453	453-454	454-455	455-456	456-457	457-458	458-459	459-460	460-461	461-462	462-463	463-464	464-465	465-466	466-467	467-468	468-469	469-470	470-471	471-472	472-473	473-474	474-475	475-476	476-477	477-478	478-479	479-480	480-481	481-482	482-483	483-484	484-485	485-486	486-487	487-488	488-489	489-490	490-491	491-492	492-493	493-494	494-495	495-496	496-497	497-498	498-499	499-500	500-501	501-502	502-503	503-504	504-505	505-506	506-507	507-508	508-509	509-510	510-511	511-512	512-513	513-514	514-515	515-516	516-517	517-518	518-519	519-520	520-521	521-522	522-523	523-524	524-525	525-526	526-527	527-528	528-529	529-530	530-531	531-532	532-533	533-534	534-535	535-536	536-537	537-538	538-539	539-540	540-541	541-542	542-543	543-544	544-545	545-546	546-547	547-548	548-549	549-550	550-551	551-552	552-553	553-554	554-555	555-556	556-557	557-558	558-559	559-560	560-561	561-562	562-563	563-564	564-565	565-566	566-567	567-568	568-569	569-570	570-571	571-572	572-573	573-574	574-575	575-576	576-577	577-578	578-579	579-580	580-581	581-582	582-583	583-584	584-585	585-586	586-587	587-588	588-589	589-590	590-591	591-592	592-593	593-594	594-595	595-596	596-597	597-598	598-599	599-600
200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500																																																																																																																																																											

41 RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS IS 0.0
 42 RELATIVE FREQUENCY OF CALM 0.0
 43 TOTAL OF SOUNDINGS FROM A SAMPLE OF 74 SOUNDINGS DID NOT HAVE
 44 50% WIND TEMP AND WIND DATA
 45 46% WIND SPEEDS
 46 47% WIND DIRECTIONS
 47 48% WIND DIRECTIONS
 48 49% WIND DIRECTIONS
 49 50% WIND DIRECTIONS
 50 51% WIND DIRECTIONS
 51 52% WIND DIRECTIONS
 52 53% WIND DIRECTIONS
 53 54% WIND DIRECTIONS
 54 55% WIND DIRECTIONS
 55 56% WIND DIRECTIONS
 56 57% WIND DIRECTIONS
 57 58% WIND DIRECTIONS
 58 59% WIND DIRECTIONS
 59 60% WIND DIRECTIONS

MIN. TRIP DURATION: 1000 FEET YEAR: 77-78
REL. CAR TRACT: SPC TO 500 METERS

INTERNALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METERS/SEC)			AVERAGE SPEED	TOTAL
	0-5	6-10	11-15		
N	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0
NEW	0.0	0.0	0.0	0.0	0.0
Avg Speed	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS IS 0.0
RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 5 SOUNDINGS FROM A SAMPLE OF 74 SOUNDINGS DID NOT HAVE
A TEMP AND WIND DATA

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11 MINUTE: SFC DATA PER YEAR: 77-78
 12 FUL CONTRACT SFC TO 500 METERS
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UNNORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			GREATER THAN 21 SPEED	AVERAGE SPEED	TOTAL
	0-3	4-6	7-10			
NNE	0.03	0.01	0.01	0.0	0.0	0.03
NE	0.02	0.01	0.01	0.0	0.0	0.02
ENE	0.01	0.01	0.01	0.0	0.0	0.01
E	0.01	0.01	0.01	0.0	0.0	0.01
EESE	0.01	0.01	0.01	0.0	0.0	0.01
SE	0.03	0.01	0.01	0.0	0.0	0.03
SSE	0.01	0.01	0.02	0.0	0.0	0.02
SS	0.01	0.02	0.02	0.0	0.0	0.05
SW	0.05	0.02	0.19	0.05	0.0	0.38
S	0.02	0.05	0.07	0.0	0.0	0.14
WSW	0.02	0.01	0.04	0.0	0.0	0.19
W	0.01	0.01	0.01	0.0	0.0	0.03
NNW	0.01	0.02	0.03	0.0	0.0	0.05
NW	0.01	0.01	0.01	0.0	0.0	0.03
NNN	0.01	0.01	0.01	0.0	0.0	0.03
TOTAL						
Avg Speed	1.9	4.6	7.5	11.9	0.0	0.0

38 TOTAL 0.22 0.31 0.41 0.05 0.0 0.0 1.00
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 40 RELATIVE FREQUENCY OF OCCURRENCE OF THE 0 STABILITY CLASS IS 0.85
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 42 RELATIVE FREQUENCY OF OCCURRENCE OF THE 0 STABILITY CLASS IS 0.85
 43 RELATIVE FREQUENCY OF OCCURRENCE OF THE 0 STABILITY CLASS IS 0.85
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 45 A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 74 SOUNDINGS DID NOT HAVE
 46 500 M TEMP AND WIND DATA
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MUTH: DEC 1st FOR YEAR: 77-78 SFC TO 500 METERS

SORTALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)	7-10		11-15		16-21		22-27		GREATERTHAN 21		AVERAGE SPEED	TOTAL
		10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20		
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NWW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Speed	2.4	4.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total	0.50	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS IS .015
 RELATIVE FREQUENCY OF CALM .00

A TOTAL OF 500 SOUNDINGS FROM A SAMPLE OF 74 SOUNDINGS DID NOT HAVE

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NOTE: NEC JAN 1974 VERS: 77-74

RIL CH TRACT SPC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	6-3	4-2	7-10	11-16	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVG SPEED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE F STABILITY CLASS IS 0.0
 RELATIVE FREQUENCY OF CALM 0.0
 A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 74 SOUNDINGS DID NOT HAVE
 500 M OF TEMP AND WIND DATA

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MINITHI : 11FC JAA1 FFM YFAQ : 77-78

COURT OF APPEAL FOR ONTARIO

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			GREATER THAN 21 SPEED	AVERAGE SPEED	TOTAL
	0-3	4-6	7-10			
N	0.03	0.00	0.00	0.00	0.00	0.03
NE	0.01	0.00	0.00	0.00	0.00	0.01
E	0.00	0.00	0.00	0.00	0.00	0.00
NE	0.00	0.00	0.00	0.00	0.00	0.00
WNE	0.00	0.00	0.00	0.00	0.00	0.00
WN	0.00	0.00	0.00	0.00	0.00	0.00
W	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00
SE	0.00	0.00	0.00	0.00	0.00	0.00
SSE	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.00	0.00	0.00	0.00	0.00
SSW	0.00	0.00	0.00	0.00	0.00	0.00
SW	0.00	0.00	0.00	0.00	0.00	0.00
WSW	0.00	0.00	0.00	0.00	0.00	0.00
WWS	0.00	0.00	0.00	0.00	0.00	0.00
WW	0.00	0.00	0.00	0.00	0.00	0.00
WWN	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.00	0.00	0.00	0.00	0.00	0.00
WNW	0.03	0.04	0.00	0.00	0.00	0.07

RELATIVE FREQUENCY OF CALL	NORMALIZED FREQUENCY DISTRIBUTION	Avg Speed	Total	a.s
0.0	0.30	2.0	0.25	0.25
0.5	0.30	2.0	0.25	0.25

	Avg Speed	2.0	4.5	7.5	11.9	0.0
Total	0.26	0.34	0.35	0.04	0.0	
NORMALIZED FREQUENCY DISTRIBUTION INDEPENDENT OF STABILITY						
RELATIVE FREQUENCY OF CALM 9.0						
A TOTAL OF 6 SOUNDINGS FROM A SAMPLE OF 74 SOUNDING SOON OF TEMP AND WIND DATA						

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MINUTE: DEC 30, 1941, YEAR: 77-78

HANKSVILLE ELEV 1215 METERS

MILZOW'S CLASSIFICATION SCHEME FOR INVERSIONS MODIFIED BY A VERTICAL NUMBER INSTEAD OF PERCENT

THICKNESS (NETTERS)		VERSION BASE WEIGHT (Lb)		1001- 2501-		501- 750-		1000- 1500-		1501- 2000-		2001- 2500-		TOTAL	
1	100	146	250	250	500	750	1000	1500	1500	2000	2500	2500	3000	3000	22
2	101	147	251	251	501	751	1001	1501	1501	2001	2501	2501	3001	3001	12
3	102	148	252	252	502	752	1002	1502	1502	2002	2502	2502	3002	3002	15
4	103	149	253	253	503	753	1003	1503	1503	2003	2503	2503	3003	3003	11
5	104	150	254	254	504	754	1004	1504	1504	2004	2504	2504	3004	3004	6
6	105	151	255	255	505	755	1005	1505	1505	2005	2505	2505	3005	3005	4
7	106	152	256	256	506	756	1006	1506	1506	2006	2506	2506	3006	3006	4
8	107	153	257	257	507	757	1007	1507	1507	2007	2507	2507	3007	3007	4
9	108	154	258	258	508	758	1008	1508	1508	2008	2508	2508	3008	3008	4
10	109	155	259	259	509	759	1009	1509	1509	2009	2509	2509	3009	3009	4
11	110	156	260	260	510	760	1010	1510	1510	2010	2510	2510	3010	3010	4
12	111	157	261	261	511	761	1011	1511	1511	2011	2511	2511	3011	3011	4
13	112	158	262	262	512	762	1012	1512	1512	2012	2512	2512	3012	3012	4
14	113	159	263	263	513	763	1013	1513	1513	2013	2513	2513	3013	3013	4
15	114	160	264	264	514	764	1014	1514	1514	2014	2514	2514	3014	3014	4
16	115	161	265	265	515	765	1015	1515	1515	2015	2515	2515	3015	3015	4
17	116	162	266	266	516	766	1016	1516	1516	2016	2516	2516	3016	3016	4
18	117	163	267	267	517	767	1017	1517	1517	2017	2517	2517	3017	3017	4
19	118	164	268	268	518	768	1018	1518	1518	2018	2518	2518	3018	3018	4
20	119	165	269	269	519	769	1019	1519	1519	2019	2519	2519	3019	3019	4
21	120	166	270	270	520	770	1020	1520	1520	2020	2520	2520	3020	3020	4
22	121	167	271	271	521	771	1021	1521	1521	2021	2521	2521	3021	3021	4
23	122	168	272	272	522	772	1022	1522	1522	2022	2522	2522	3022	3022	4
24	123	169	273	273	523	773	1023	1523	1523	2023	2523	2523	3023	3023	4
25	124	170	274	274	524	774	1024	1524	1524	2024	2524	2524	3024	3024	4
26	125	171	275	275	525	775	1025	1525	1525	2025	2525	2525	3025	3025	4
27	126	172	276	276	526	776	1026	1526	1526	2026	2526	2526	3026	3026	4
28	127	173	277	277	527	777	1027	1527	1527	2027	2527	2527	3027	3027	4
29	128	174	278	278	528	778	1028	1528	1528	2028	2528	2528	3028	3028	4
30	129	175	279	279	529	779	1029	1529	1529	2029	2529	2529	3029	3029	4
31	130	176	280	280	530	780	1030	1530	1530	2030	2530	2530	3030	3030	4
32	131	177	281	281	531	781	1031	1531	1531	2031	2531	2531	3031	3031	4
33	132	178	282	282	532	782	1032	1532	1532	2032	2532	2532	3032	3032	4
34	133	179	283	283	533	783	1033	1533	1533	2033	2533	2533	3033	3033	4
35	134	180	284	284	534	784	1034	1534	1534	2034	2534	2534	3034	3034	4
36	135	181	285	285	535	785	1035	1535	1535	2035	2535	2535	3035	3035	4
37	136	182	286	286	536	786	1036	1536	1536	2036	2536	2536	3036	3036	4
38	137	183	287	287	537	787	1037	1537	1537	2037	2537	2537	3037	3037	4
39	138	184	288	288	538	788	1038	1538	1538	2038	2538	2538	3038	3038	4
40	139	185	289	289	539	789	1039	1539	1539	2039	2539	2539	3039	3039	4
41	140	186	290	290	540	790	1040	1540	1540	2040	2540	2540	3040	3040	4
42	141	187	291	291	541	791	1041	1541	1541	2041	2541	2541	3041	3041	4
43	142	188	292	292	542	792	1042	1542	1542	2042	2542	2542	3042	3042	4
44	143	189	293	293	543	793	1043	1543	1543	2043	2543	2543	3043	3043	4
45	144	190	294	294	544	794	1044	1544	1544	2044	2544	2544	3044	3044	4
46	145	191	295	295	545	795	1045	1545	1545	2045	2545	2545	3045	3045	4
47	146	192	296	296	546	796	1046	1546	1546	2046	2546	2546	3046	3046	4
48	147	193	297	297	547	797	1047	1547	1547	2047	2547	2547	3047	3047	4
49	148	194	298	298	548	798	1048	1548	1548	2048	2548	2548	3048	3048	4
50	149	195	299	299	549	799	1049	1549	1549	2049	2549	2549	3049	3049	4
51	150	196	300	300	550	800	1050	1550	1550	2050	2550	2550	3050	3050	4
52	151	197	301	301	551	801	1051	1551	1551	2051	2551	2551	3051	3051	4
53	152	198	302	302	552	802	1052	1552	1552	2052	2552	2552	3052	3052	4
54	153	199	303	303	553	803	1053	1553	1553	2053	2553	2553	3053	3053	4
55	154	200	304	304	554	804	1054	1554	1554	2054	2554	2554	3054	3054	4
56	155	201	305	305	555	805	1055	1555	1555	2055	2555	2555	3055	3055	4
57	156	202	306	306	556	806	1056	1556	1556	2056	2556	2556	3056	3056	4
58	157	203	307	307	557	807	1057	1557	1557	2057	2557	2557	3057	3057	4
59	158	204	308	308	558	808	1058	1558	1558	2058	2558	2558	3058	3058	4
60	159	205	309	309	559	809	1059	1559	1559	2059	2559	2559	3059	3059	4
61	160	206	310	310	560	810	1060	1560	1560	2060	2560	2560	3060	3060	4
62	161	207	311	311	561	811	1061	1561	1561	2061	2561	2561	3061	3061	4
63	162	208	312	312	562	812	1062	1562	1562	2062	2562	2562	3062	3062	4
64	163	209	313	313	563	813	1063	1563	1563	2063	2563	2563	3063	3063	4
65	164	210	314	314	564	814	1064	1564	1564	2064	2564	2564	3064	3064	4
66	165	211	315	315	565	815	1065	1565	1565	2065	2565	2565	3065	3065	4
67	166	212	316	316	566	816	1066	1566	1566	2066	2566	2566	3066	3066	4
68	167	213	317	317	567	817	1067	1567	1567	2067	2567	2567	3067	3067	4
69	168	214	318	318	568	818	1068	1568	1568	2068	2568	2568	3068	3068	4
70	169	215	319	319	569	819	1069	1569	1569	2069	2569	2569	3069	3069	4
71	170	216	320	320	570	820	1070	1570	1570	2070	2570	2570	3070	3070	4
72	171	217	321	321	571	821	1071	1571	1571	2071	2571	2571	3071	3071	4
73	172	218	322	322	572	822	1072	1572	1572	2072	2572	2572	3072	3072	4
74	173	219	323	323	573	823	1073	1573	1573	2073	2573	2573	3073	3073	4
75	174	220	324	324	574	824	1074	1574	1574	2074	2574	2574	3074	3074	4
76	175	221	325	325	575	825	1075	1575	1575	2075	2575	2575	3075	3075	4
77	176	222	326	326	576	826	1076	1576	1576	2076	2576	2576	3076	3076	4
78	177	223	327	327	577	827	1077	1577	1577	2077	2577	2577	3077	3077	4
79	178	224	328	328	578	828	1078	1578	1578	2078	2578	2578	3078	3078	4
80	179	225	329	329	579	829	1079	1579	1579	2079	2579	2579	3079	3079	4
81	180	226	330	330	580	830	1080	1580	1580	2080	2580	2580	3080	3080	4
82	181	227	331	331	581	831	1081	1581	1581	2081	2581	2581	3081	3081	4
83	182	228	332	332	582	832	1082	1582	1582	2082	2582	2582	3082	3082	4
84	183	229	333	333	583	833	1083	1583	1583	2083	2583	2583	3083	3083	4
85	184	230	334	334	584	834	1084	1584	1584	2084	2584	2584	3084	3084	4
86	185	231	335	335	585	835	1085	1585	1585	2085	2585	2585			

MIDNIGHT DEC JAH PFM YEAR: 77-78

HANOVERVILLE SFC TO 500 METERS

UNIVERSALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			GREATER THAN 21	AVERAGE SPEED	TOTAL
	0-1	1-10	11-15			
N	0.0	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0
S"	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0
NA	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0
Avg Speed	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 14 SOUNDINGS FROM A SAMPLE OF 500 W OF TEMP AND WIND DATA

MONT: DEC JAN FEB YEAR: 77-78

HANNSVILLE SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

	DIRECTION	2-3	4-5	7-10	11-15	17-21	GREATER THAN 21	AVERAGE SPEED	INITIAL
20	N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	PSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	NNN	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.00
36	Avg SPEED	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	TOTAL	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS IS 0.01
 A TOTAL OF 14 SOUNDINGS FROM A SAMPLE OF 83 SOUNDINGS DID NOT HAVE
 500 M DE TEMP AND HLD DATA

MINTH: SFC JAN FEB YR: 77-78

HANNSVILLE

SFC IN 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	0-3	4-6	7-10	SPEED (METER/SEC)			AVERAGE SPEED	TOTAL
				11-15	16-21	GREATER THAN 21		
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Speed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURENCE OF THE C STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 14 SOUNDINGS FROM A SAMPLE OF 500 M OF TEMP AND WIND DATA AS SOUNDINGS DID NOT HAVE

STABILITY CLASS IS 0.0

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SFC TO 500 METERS

HIGHALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			GREATER THAN 21 AVG SPEED	TOTAL
	0-3	4-6	7-10		
N	0.0	0.0	0.0	0.0	0.0
NNE	0.12	0.0	0.0	0.0	0.12
NE	0.0	0.2	0.0	0.0	0.2
ENE	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0
WW	0.0	0.0	0.0	0.0	0.0
Avg Speed	1.02	0.0	0.0	0.0	0.0
Total	1.00	0.0	0.0	0.0	1.00

41 RELATIVE FREQUENCY OF OCCURRENCE OF THE E STABILITY CLASS IS 0.25
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) 43 RELATIVE FREQUENCY OF CALM 0.0
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) 45 A TOTAL OF 14 SOUNDINGS FROM A SAMPLE OF 83 SOUNDINGS DID NOT HAVE
) 46 500 M (IF TEMP AND WIND DATA
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MONTH: DEC JAH PEAR: 77-78 HANNSVILLE SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			GREATERTHAN 21	AVERAGETHAN 21	AVERAGETHAN 21
	4-6	7-10	11-15			
N	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0
FEF	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0
NW	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0
Avg	0.0	0.0	0.0	0.0	0.0	0.0
Avg Speed	1.8	0.0	0.0	0.0	0.0	0.0
Total	1.00	0.0	0.0	0.0	0.0	1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS VS 0.77

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 14 SOUNDINGS FROM A SAMPLE OF 83 SOUNDINGS DID NOT HAVE
500 M DE TEMP AND WIND DATA

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MIN-MAX: DEC JAN FEB YEAR: 77-78 HANNSVILLE SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

	DIRECTION	0-3	4-6	7-10	11-15	16-21	17-21	GREATER THAN 21	AVERAGE SPEED	TOTAL
20	N	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
21	NE	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
22	E	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
23	SE	0.07	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
24	SW	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
25	WSW	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
26	SSE	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
27	SS	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
28	SSN	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
29	SN	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
30	SW	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
31	WSW	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
32	WNW	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
33	WN	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
34	W	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
35	WNW	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
36										
37	Avg Speed	1.4	4.1	7.2	11.7	17.0	0.0	0.0	0.0	0.0
38	Total	0.86	0.06	0.04	0.03	0.01	0.0	0.0	0.0	1.00

NORMALIZED FREQUENCY DISTRIBUTION INDEPENDENT OF STABILITY

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 14 SOUNDINGS FROM A SAMPLE OF 83 SOUNDINGS DID NOT HAVE
500 M OF TEMP AND RH DATA

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THE CLASSIFICATION OF SCHEMES IN THE PREDICATIVE

MONTH: DEC JAN FEB YEAR: 77-78

WILDCR SPRINGS SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)		GREATER THAN 21 SPEED	AVERAGE SPEED	TOTAL
	0-3	4-6			
N	0.0	0.0	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0
36					
Avg Speed	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE A STABILITY CLASS IS 0.0

A TOTAL OF 22 COUNTINGS FROM A SAMPLE OF 83 COUNTINGS DID NOT HAVE
50% OF TEMP AND WIND DATA



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1991-1992 SEC JAN 26TH 77-74 RUGA SERVICES SEC THE 500 METERS

STIMULIZED FREQUENCY DISINHIBITION

DIRECTION	SPEED (METER/SEC)			GREATER THAN .21	AVG SPEED	TOTAL
	11-16	7-10	17-21			
N	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0
NWW	0.0	0.0	0.0	0.0	0.0	0.0
Avg Speed	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0

RELATIVE FREQUENCY OF OCCURRENCE OF THE H STABILITY CLASS IS .0.
RELATIVE FREQUENCY OF CALM .0.

A TOTAL OF 22 SOUNDINGS FROM A SAMPLE OF 500 MEASUREMENTS
AS SOUNDINGS DID NOT HAVE

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1000 METERS
SFC 1000 METERS
MURK SPOTINGS

BUCK SPRINGS 500 METERS SFC T-1

MATERIAL FRICTION DISTRIBUTION

DIRECTION	SPEED (METERS/SEC)	GREATER THAN	AVERAGE SPEED	TOTAL
W-E	7-10	11-15	17-21	21

RELATIVE FREQUENCY OF OCCURRENCE OF THE C STABILITY CLASS IS 0.0

RELATIVE FREQUENCY OF EMISSIONS

RELATIVE FREQUENCY	NUMBER OF SOUNDS
0.0	1
0.1	1
0.2	1
0.3	1
0.4	1
0.5	1
0.6	1
0.7	1
0.8	1
0.9	1
1.0	1

A TOTAL OF 22 SOUNDS FROM A SAMPLE OF 83 SOUNDINGS DID NOT HAVE 500 MILLE TEMP AND HUMIDITY DATA

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MUNICIPALITY: PORT JAMESON YEAR: 1977-78 RUCK SPRINGS SEC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPEED (METER/SEC)			TOTAL
	0-3	4-6	7-10	
N	0.02	0.0	0.0	0.02
NE	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0
SE	0.0	0.02	0.0	0.02
S	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0
SSW	0.0	0.02	0.0	0.02
SW	0.0	0.04	0.0	0.06
WSW	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0
AVG SPEED	1.7	4.9	7.7	12.7
TOTAL	0.17	0.23	0.30	0.70
RELATIVE FREQUENCY OF OCCURRENCE OF THE 0 STABILITY CLASS IS 0.77				
RELATIVE FREQUENCY OF EACH 0.0				
A TOTAL OF 22 SOUNDINGS FROM A SAMPLE OF 500 MILE TEMP AND WIND DATA				
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63 SOUNDINGS DID NOT HAVE
A TOTAL OF 22 SOUNDINGS FROM A SAMPLE OF
500 MILE TEMP AND WIND DATA

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BICK SPRINGS

DEC JAN FEB MARCH: 77-78

SFC TO 500 METERS

NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	SPECIFIC FREQUENCY DISTRIBUTION			GREATERTHAN 21	AVERAGE SPEED	TOTAL
	0-5	6-10	11-15			
N	0.1	0.1	0.1	0.0	0.0	0.0
NNE	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0
ESE	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0
SES	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0
S	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0
W	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0
NN	0.0	0.0	0.0	0.0	0.0	0.0
Avg Speed	1.6	0.2	0.0	0.0	0.0	0.0
Total	0.36	0.04	0.0	0.0	0.0	1.00

RELATIVE FREQUENCY OF OCCURRENCE OF THE STABILITY CLASS IS 0.23

RELATIVE FREQUENCY OF CALM 0.0

A TOTAL OF 22 SOUNDINGS FROM A SAMPLE OF 500 SOUNDINGS DID NOT HAVE
SOUNDING TEMP AND WIND DATA

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10 DECEMBER 1948 SEC TO 500 METERS
WICK SPRINGS

11 NORMALIZED FREQUENCY DISTRIBUTION

DIRECTION	S-5	7-10	7-10	11-16	11-16	17-21	GREATER THAN 21		AVERAGE SPEED	FINAL
							0.0	0.0		
N	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.92
NNE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NNW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.21	0.33	0.23	0.21	0.21	0.02	0.0	0.0	1.00	1.00
Avg Speed	1.6	4.6	7.7	12.7	17.9	0.0	0.0	0.0	0.0	0.0

12 NORMALIZED FREQUENCY DISTRIBUTION INDEPENDENT OF STABILITY

13 RELATIVE FREQUENCY OF CALLS 0.0

14 A TOTAL OF 22 SOUNDINGS FROM A SAMPLE OF 83 SOUNDINGS DID NOT HAVE
15 50% ABOVE TEMPO AND ECHO DATA

Form 1279-3
(June 1984)

BORROWER'S CARD

IN 359 "JG" MAG NO. 1

Seasonal progress report for
the period _____ to _____

DATE LOANED	BORROWER	OFFIC

USDI - BLM

